



June 10, 2010

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Ms. Lynda Deschambault  
EPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Subject: Omega Chemical OU-2 and Water Rights, Replenishment Assessment  
Exemptions and Nonconsumptive Water Use Permits

Dear Ms. Deschambault:

As you are aware, the Water Replenishment District of Southern California ("WRD") staff (Phuong Ly and myself) met with you and your consultant, CH2MHill (Tom Perina, Mike Grigorieff) on May 12, 2009 at WRD to discuss possible remediation options for the Omega Chemical OU-2 site, and the associated water rights, Replenishment Assessment (RA) Exemptions and Nonconsumptive Water Use (NWU) Permits issues. We also provided a briefing on water rights, RA Exemptions and NWU Permits at the subsequent November 18, 2009 Central and West Coast Basin Groundwater Contamination Forum meeting which you and Mr. Perina attended. A copy of the PowerPoint presentation (which was distributed at the Forum meeting) is attached for reference.

In light of these past briefings, WRD has reviewed EPA's Draft Feasibility Study Report, Omega Chemical, Operable Unit 2, Whittier, California, dated January 2010, and notes some apparent discrepancies in EPA's understanding of the water rights, RA Exemptions, and NWU Permit issues affecting remediation options for the OU-2. The following paragraphs detail the apparent discrepancies in the Draft Feasibility Study Report and offer suggestions for clarification. We welcome a follow-up discussion on these items at your earliest convenience.

**Page 2-28, First Paragraph:** The paragraph reads, "One of the key factors in evaluation of discharge or end use options is the issue of water rights that belong to the Central Basin Municipal Water District (CBMWD). Alternatives that do not reuse the water in a beneficial manner within this water district may incur high costs for replacement water." **This paragraph seems to refer to our agency, the Water Replenishment District of Southern California. We are not the Central Basin Municipal Water District (CBMWD). The CBMWD is a water retailer under the Metropolitan Water District of Southern California. The WRD is a water replenishment district organized and existing under the provisions of the Water Replenishment District Act, California Water Code Sections 60000 *et seq.* WRD is authorized to manage and maintain ground water basins in southern Los Angeles County, including the Central and West Coast Basins. Furthermore, the WRD does not have water rights in either the Central or West Coast Basins. The WRD works with the California Department of Water Resources (DWR) to track**

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groundwater extraction by parties holding water rights in these basins, and charges a Replenishment Assessment (RA) to cover the cost of replacement water for the aquifers. Finally, remediation alternatives that use the extracted water in a beneficial manner are subject to the RA (as this extraction would be comparable to similar extractions by water rights holders for potable use, industrial use, etc.). Pursuant to Water Code Section 60318, WRD's Board may, at its discretion, grant an exemption from the RA only if the following findings can be made: 1) the groundwater to be extracted is unusable, and it is not economical to blend it for use with other water; or 2) the proposed program involves extraction of usable water in the same quantity as what will be returned to the ground without any degradation in the quality of the water.

**Page 2-28, Fourth Paragraph:** The paragraph reads, "The advantage of this approach is that water would be reused in a productive manner. In addition, the issue of water rights with the CBMWD would be mitigated because the treated water would be used to replace groundwater being extracted for potable use commensurately within the same water basin. On this basis, there would not be any net withdrawal of water from the basin. However, if the water extracted from OU-2 for potable use was not offset by commensurate reductions by other purveyors in the basin, then a replenishment fee would likely be imposed by the Water Replenishment District (WRD)." **This paragraph also seems to refer to our agency, WRD (not CBMWD). As stated above, WRD does not have water rights in either the Central or West Coast Basins. Furthermore, the parameters set forth in Water Code Section 60318, for WRD's determination whether a remediation project is granted a RA Exemption do not include whether the remediation system's groundwater extraction is offset by other reductions in pumping in the basin.**

**Page 2-28, Fifth Paragraph:** The paragraph reads, "This end use would also generate waste brine (a fraction of the total flow) that would also be subject to water rights. The system operator would need to apply to the WRD for a Replenishment Assessment Exemption and Non-Consumptive Water Use (NWU) Permit under a partnership with a Central Basin water rights holder. Once approved by WRD, the Replenishment Assessment Exemption and NWU Permit would likely be valid for 5 years, and then subject to review and renewal." **In accordance with Water Code Section 60318, all of the groundwater extracted via a remediation system, not just the waste brine, requires application for a RA Exemption, and under the terms of Section I(1)(c) of the Central Basin Judgment, only those parties affirmatively listed in the Judgment have a right to extract groundwater from the Central Basin, therefore an NWU Permit is necessary. Further, the duration of any RA exemption and/or NWU Permit is subject to the discretion of WRD.**

**Page 2-29, Third Paragraph:** The paragraph reads, "Water rights will likely be an issue for this end use option. The WRD encourages the remediation of contaminated water and typically provides a basin replenishment assessment exemption for nonconsumptive use that is renewable every 5 years. However, because usage of reclaimed water is a consumptive use, this exemption may not be allowed. Discussions with WRD would be needed in the RD phase to resolve this issue. The WRD replenishment fee was \$153 per acre-foot in 2009." **Pursuant to Water Code Section 60318, the RA Exemption cannot be granted if the water is being put to beneficial use.**

**Page 2-29, Fourth Paragraph:** The paragraph reads, "Similar to drinking water end use, reclaimed water end use would also generate waste brine and would be subject to a Replenishment Assessment Exemption and NWU Permit." **As stated above, in accordance with Water Code Section 60318, all of the groundwater extracted via a remediation system, not just the waste**

**brine, requires application for a RA Exemption. Further, pursuant to Section I(1)(c) of the judgment in *Central Basin Water Replenishment District v. Adams*, Los Angeles County Superior Court Case No. C786656 (“Central Basin Judgment”), only those parties affirmatively listed in the Judgment have a right to extract groundwater from the Central Basin, therefore an NWU Permit would be necessary.**

**Page 2-29, Sixth Paragraph:** The paragraph reads, “Treated water may be discharged into deep injection wells within the OU-2 area or into shallow injection wells outside OU-2. Aquifer reinjection would benefit regional water reuse efforts and sustainability of water resources in the Central Basin. This end use option would not require water rights in the basin. As with drinking water end use, aquifer reinjection would also generate waste brine and would be subject to a Replenishment Assessment Exemption and NWU Permit.” **Per Section I(1)(c) of the Central Basin Judgment, this remediation option would require water rights or a NWU Permit, regardless of whether the water is reinjected. Further, in accordance with Water Code Section 60318 and the Central Basin Judgment, all of the groundwater extracted via a remediation system, not just the waste brine, requires application for a RA Exemption and NWU Permit.**

**Page 2-32, First Paragraph:** The paragraph reads, “Much like the drinking water end use, the spreading basin discharge would also generate waste brine and would be subject to a Replenishment Assessment Exemption and NWU Use Permit.” **In accordance with Water Code Section 60318 and the Central Basin Judgment, all of the groundwater extracted via a remediation system, not just the waste brine, requires application for a RA Exemption and NWU Permit.**

**Page 3-5, Fourth Paragraph:** The paragraph reads, “Water rights would not be an impediment for alternatives with treated water end use in which there is no net withdrawal of water from the groundwater basin (e.g., reinjection), water basin recharge via spreading basins, or offsetting drinking water end use by commensurate reductions in existing area water production wells. Temporary water rights would have to be obtained from existing water rights holders, such as the City of Santa Fe Springs or other water purveyors to accommodate these end uses. It is noted that such temporary rights do not count against the holder’s allotments. Alternatives with an end use that results in a net withdrawal of water from the water basin will likely be subject to basin replenishment fees.” **Per Section I(1)(c) of the Central Basin Judgment, all of these remediation options would require water rights or a NWU Permit, regardless of whether the water is reinjected, spread or basin extraction is offset. Pursuant to Water Code Section 60318, WRD’s Board may, at its discretion, grant an exemption from the RA only if the following findings can be made: 1) the groundwater to be extracted is unusable, and it is not economical to blend it for use with other water; or 2) the proposed program involves extraction of usable water in the same quantity as what will be returned to the ground without any degradation in the quality of the water.**

**Page 3-5, Sixth Paragraph:** The sixth sentence reads, “...Water rights need to be considered unless the water that is used is offset by commensurate reductions at existing production wells in the basin such that there is no net withdrawal of water from the basin...” **Per Section I(1)(c) of the Central Basin Judgment, this remediation option would require water rights or a NWU Permit, regardless of whether basin extraction is offset.**

**Page 3-6, Third Paragraph:** The sixth sentence reads, “...Water rights need to be considered unless the reclaimed water is reused within the jurisdiction of the basin Water Master because the

treated water will not be returned to the aquifer...” **Per Section I(1)(c) of the Central Basin Judgment, this remediation option would require water rights or a NWU Permit, regardless of whether the water is reused.**

**Page 3-6, Fourth Paragraph:** The eighth sentence reads, “...Reinjection returns the treated water to the deep aquifer at OU-2 and preserves groundwater as a resource; therefore, it does not involve complex and potentially high cost water rights issues...” **Per Section I(1)(c) of the Central Basin Judgment, this remediation option would require water rights or a NWU Permit, regardless of whether the water is reinjected.**

**Page 3-6, Fifth Paragraph:** The second sentence reads, “...The treated water would be returned to the basin and conserved as a resource; therefore, it does not involve complex and potentially high cost water rights issues...” **Per Section I(1)(c) of the Central Basin Judgment, this remediation option would require water rights or a NWU Permit, regardless of whether the water is returned to the basin.**

**Page 4-6, First Paragraph:** The paragraph reads, “Compliance with ARARs – Alternative 2 would meet all chemical-specific, location-specific, and action-specific ARARs for an interim action containment remedy. Drinking water would be treated to meet or exceed MCLs and NLs.” **It is unclear whether water rights, RA Exemptions, and NWU Permits were evaluated as ARARs in this section.**

**Page 4-7, Fifth Paragraph:** The first sentence reads, “...The capital and annual O&M costs for Alternative 2 would be \$29.2 million and \$2.0 million, respectively (Table 4-2). The corresponding NPV is \$53.6 million...” **It is unclear whether the potential costs associated with water rights, RA Exemptions, and NWU Permits were evaluated in this section. For example, if NWU Permits can be obtained, there are costs associated with developing an Agreement with the water rights holder. If NWU Permits cannot be obtained, there are costs associated with purchasing or leasing water rights. If RA Exemptions can be obtained, there are costs associated with applying for the RA Exemption and demonstrating that the RA Exemption may be granted. If RA Exemptions cannot be obtained, there are costs associated with paying the RA for each acre-foot of water extracted. For the 2010-2011 fiscal year, the WRD Board has set the RA at Two Hundred Five Dollars (\$205.00) per acre foot.**

**Page 4-8, Fifth Paragraph:** The paragraph reads, “Compliance with ARARs – Alternative 3 would meet all chemical-specific, location-specific, and action-specific ARARs. In addition, the TBC limit of 8 ug/L for hexavalent chromium will be met, so this reclaimed water could go to irrigation runoff to flow into storm drains and subsequently into surface water such as the San Gabriel River.” **It is unclear whether water rights, RA Exemptions, and NWU Permits were evaluated as ARARs in this section.**

**Page 4-10, Third Paragraph:** The first sentence reads, “...The capital and annual O&M costs for Alternative 3 would be \$40.1 million and \$3.6 million, respectively. The corresponding NPV is \$85.2 million.” **As stated above, it is unclear whether the potential costs associated with water rights, RA Exemptions, and NWU Permits were evaluated in this section. For example, if NWU Permits can be obtained, there are costs associated with developing an Agreement with the water rights holder. If NWU Permits cannot be obtained, there are costs associated with purchasing or leasing water rights. If RA Exemptions can be obtained, there are costs**

**associated with applying for the RA Exemption and demonstrating that the RA Exemption may be granted. If RA Exemptions cannot be obtained, there are costs associated with paying the RA for each acre-foot of water extracted. For the 2010-2011 fiscal year, the WRD Board has set the RA at Two Hundred Five Dollars (\$205.00) per acre foot.**

**Page 4-10, Eighth Paragraph:** The paragraph reads, "Compliance with ARARs – Alternative 4 would meet all chemical-specific, location-specific, and action-specific ARARs." **It is unclear whether water rights, RA Exemptions, and NWU Permits were evaluated as ARARs in this section.**

**Page 4-12, Fifth Paragraph:** The first sentence reads, "...The capital and annual O&M costs for Alternative 4 would be \$41.4 million and \$2.6 million, respectively. The corresponding NPV is \$73.2 million." **As stated above, it is unclear whether the potential costs associated with water rights, RA Exemptions, and NWU Permits were evaluated in this section.**

**Page 4-13, Third Paragraph:** The paragraph reads, "Compliance with ARARs – Alternative 5 would meet all chemical-specific, location-specific, and action-specific ARARs. In addition, the TBC limit of 8 ug/L for hexavalent chromium will be met that would allow the treated water to be discharged into the infiltration basins and subsequently into surface water such as the San Gabriel River." **It is unclear whether water rights, RA Exemptions, and NWU Permits were evaluated as ARARs in this section.**

**Page 4-14, Fifth Paragraph:** The first sentence reads, "...The capital and annual O&M costs for Alternative 5 would be \$41.6 million and \$3.3 million, respectively. The corresponding NPV is \$82.9 million." **As stated above, it is unclear whether the potential costs associated with water rights, RA Exemptions, and NWU Permits were evaluated in this section.**

**Page 4-15, Fifth Paragraph:** The paragraph reads, "Compliance with ARARs – Alternative 6 would meet all chemical-specific, location-specific, and action-specific ARARs for an interim action containment remedy. Drinking water would be treated to meet or exceed MCLs and NLs." **It is unclear whether water rights, RA Exemptions, and NWU Permits were evaluated as ARARs in this section.**

**Page 4-16, Fourth Paragraph:** The first sentence reads, "...The capital and annual O&M costs for Alternative 5 (6?) would be \$38.4 million and \$2.5 million, respectively. The corresponding NPV is \$69.2 million." **As stated above, it is unclear whether the potential costs associated with water rights, RA Exemptions, and NWU Permits were evaluated in this section.**

**Page 4-17, Sixth Paragraph:** The paragraph reads, "Alternatives 2 through 6 would meet all chemical-specific, location-specific, and action-specific ARARs for an interim action containment remedy. Water rights issues would have to be resolved through negotiations with the parties to the Central Basin judgment for Alternative 3 that withdraws water from the basin for consumptive reclaimed water use. Water rights would not be an impediment for the other alternatives because the treated water would be used for basin replenishment (Alternatives 4 and 5) or offset by commensurate reductions in pumping rates at existing production wells (Alternatives 2 and 6). The operator of the remedy would be required to acquire temporary water rights from a water rights holder; the temporary water rights would not count against the holder's water allocation. If no water extraction offsets are provided for Alternatives 2 and 6, then basin replenishment fees would

likely be assessed by the WRD.” As stated above, per Section I(1)(c) of the Central Basin Judgment, all of these remediation options would require water rights or a NWU Permit, regardless of whether the water is reinjected, spread or basin extraction is offset. Furthermore, pursuant to Water Code Section 60318, WRD’s Board may, at its discretion, grant an exemption from the RA only if the following findings can be made: 1) the groundwater to be extracted is unusable, and it is not economical to blend it for use with other water; or 2) the proposed program involves extraction of usable water in the same quantity as what will be returned to the ground without any degradation in the quality of the water

**Page 4-21, First Paragraph (“Cost”):** As stated above, it is unclear whether the potential costs associated with water rights, RA Exemptions, and NWU Permits were evaluated in this section.

WRD appreciates the opportunity to comment on the Omega Chemical OU-2 Draft Feasibility Study Report. We hope that these comments have clarified the water rights, RA Exemptions, and NWU Permits issues associated with the Omega OU-2 remediation alternatives, and welcome follow-up discussion.

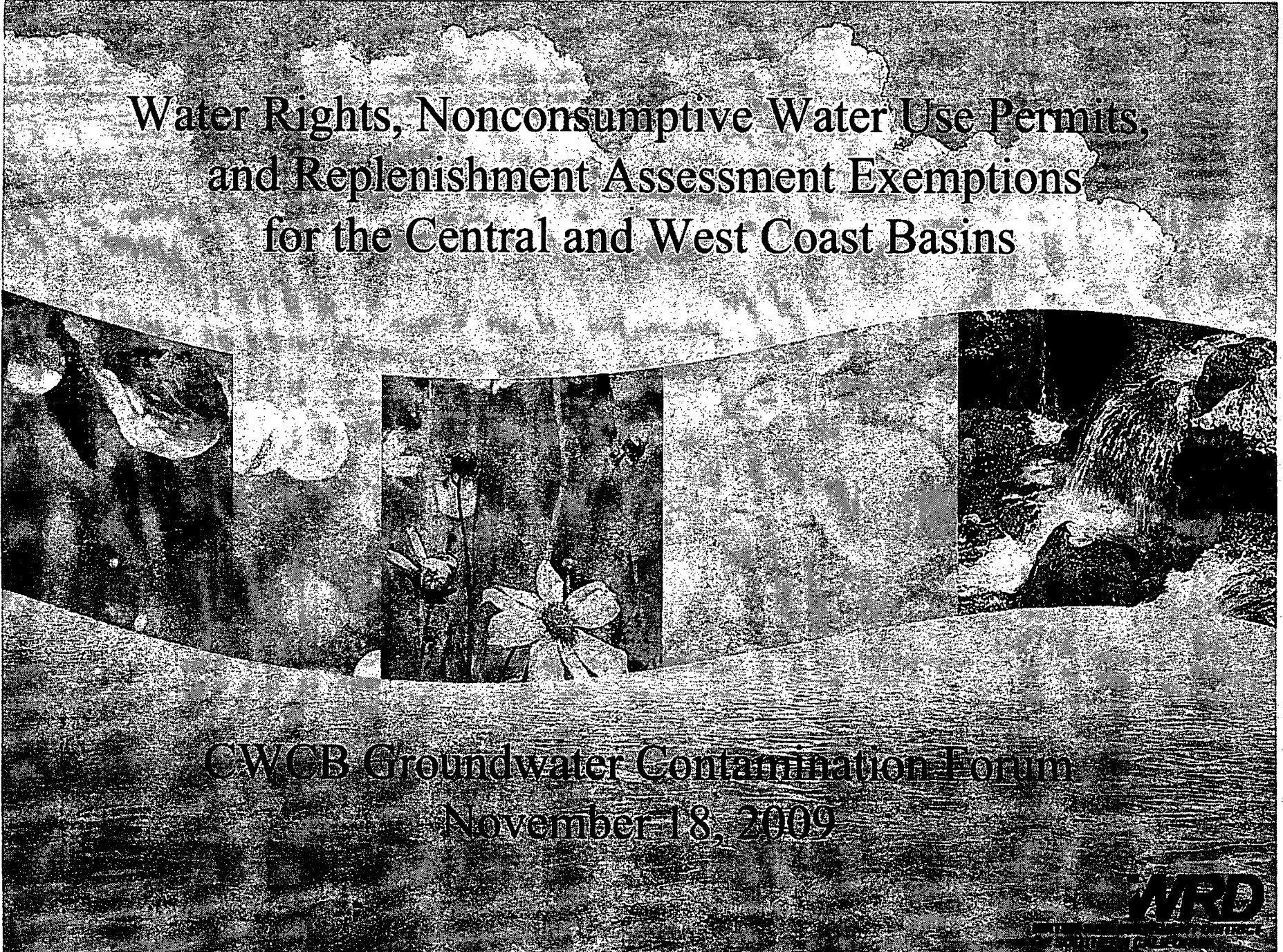
Sincerely,



Nancy Matsumoto, P.G., C.H.G.  
Senior Hydrogeologist

Attachment: PowerPoint presentation from Forum Meeting, November 18, 2009

cc: CH2MHill – Tom Perina  
WRD – Ted Johnson  
WRD – Phuong Ly



# Water Rights, Nonconsumptive Water Use Permits, and Replenishment Assessment Exemptions for the Central and West Coast Basins

CWCB Groundwater Contamination Forum  
November 18, 2009



# Water Rights in the Central and West Coast Basins

## Definitions, Background Information

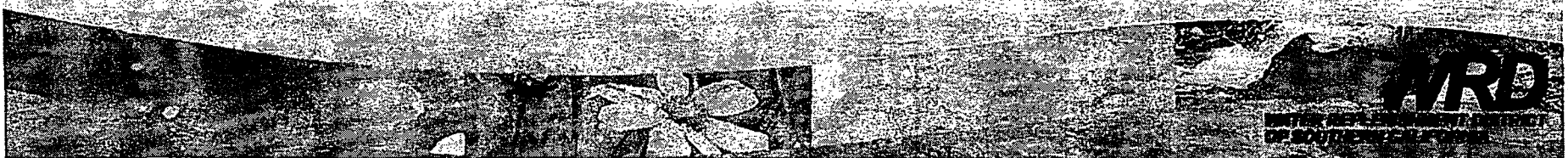
- Adjudication: Act of judging or deciding by law (courts)
- Acre-Foot (AF): Amount of water required to cover one acre to a depth of one foot; ~326,000 gallons
- In CWCB, historical overpumping caused wells to go dry and allowed seawater to contaminate coastal groundwater
- Resulted in West Coast Basin, then Central Basin Adjudications
- WRD formed primarily to replenish groundwater in CWCB, as groundwater extractions were set above natural replenishment rates



# Water Rights in the Central and West Coast Basins

## Definitions, Background Information (continued)

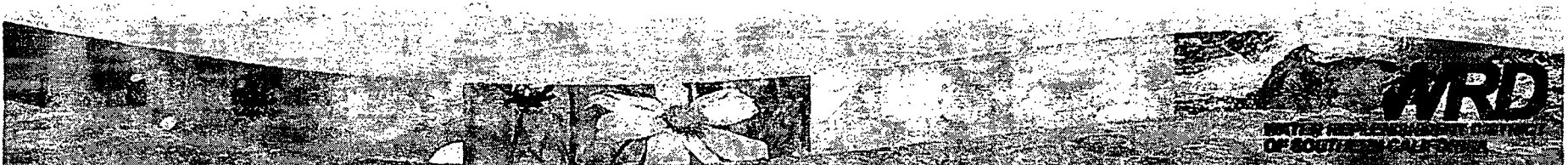
- West Coast Basin Adjudication (1961):
  - Limited pumping to 64,468 AF/year
  - 160 square miles, 20 incorporated cities, 30 active pumpers and 67 parties
  - [http://www.water.ca.gov/watermaster/westbasin\\_judgment/index.cfm](http://www.water.ca.gov/watermaster/westbasin_judgment/index.cfm)
- Central Basin Adjudication (1965):
  - Limited pumping to 217,367 AF/year with relative rights totaling 271,650 AF/year
  - 277 square miles, 23 incorporated cities, 78 active pumpers and 148 parties
  - [http://www.water.ca.gov/watermaster/centralbasin\\_judgment/index.cfm](http://www.water.ca.gov/watermaster/centralbasin_judgment/index.cfm)

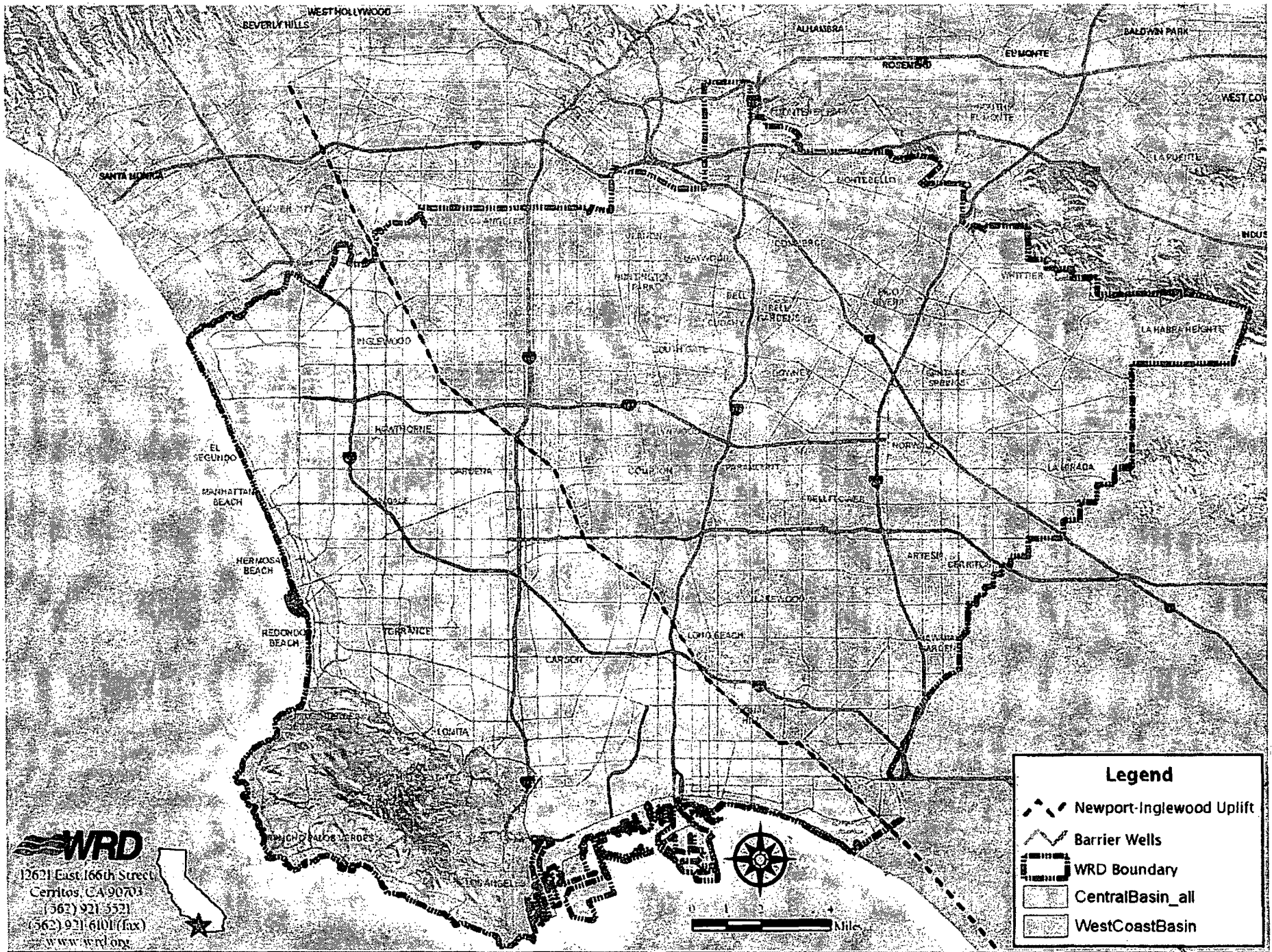


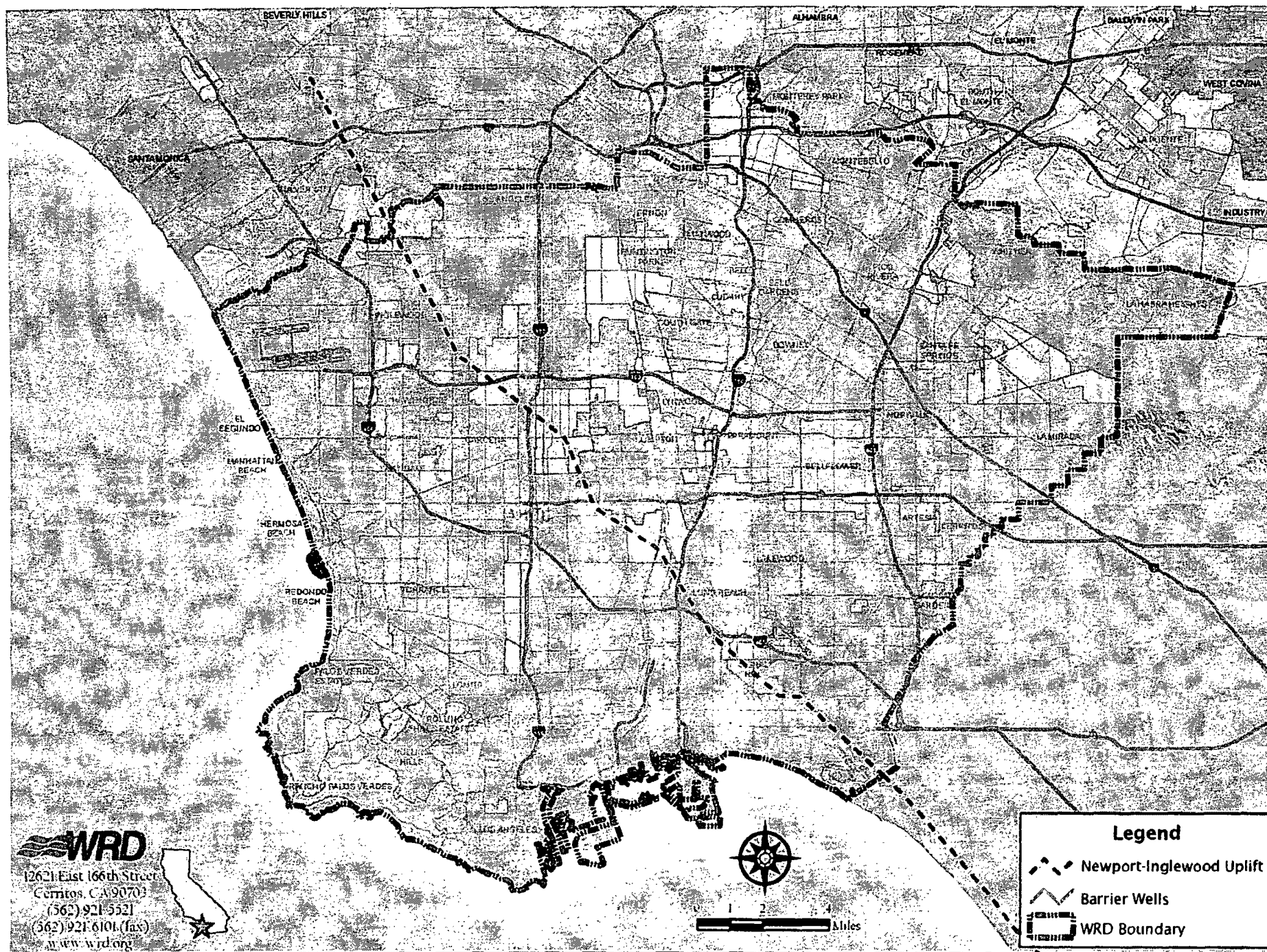
# Water Rights in the Central and West Coast Basins

## Definitions, Background Information (continued)

- CWCB Watermaster = California Department of Water Resources, Southern District office
- Watermaster works with WRD to track groundwater extractions and enforce water rights
- Bottom line: Groundwater cannot be extracted from CWCB without having water rights, or if waiver is granted related to groundwater remediation (Nonconsumptive Water Use Permit)*
- Any groundwater extractions related to remediation in CWCB should be reported to Watermaster*
  - Watermaster: Milan Cernosek, [cernosek@water.ca.gov](mailto:cernosek@water.ca.gov)







# Nonconsumptive Water Use Permits in the CWCB

## Definitions, Background Information

- *Bottom line: Groundwater cannot be extracted from CWCB without having water rights, or if waiver is granted related to groundwater remediation (Nonconsumptive Water Use Permit)*
- If Central Basin, NWU Permit must be obtained from WRD; party must work with a water rights holder to “borrow” their rights (in name only, does not affect allowed extractions of rights holder)
- If West Coast Basin, NWU Permit must be obtained from Watermaster; party must work with a water rights holder...lengthier process, public notification, Watermaster \$\$\$



# Replenishment Assessment Exemptions in the CWCB

## Definitions, Background Information

- CA Water Code: WRD responsible for replenishment, protection, and preservation of groundwater supplies/quality in CWCB
- To fund replenishment of groundwater for CWCB, WRD collects Replenishment Assessment (RA) on groundwater extracted
- RA value set annually by WRD Board, based on replenishment needs for CWCB and cost of replenishment water
- Current RA is \$181.85/AF
- Bottom line: Groundwater cannot be extracted from WRD's service area without paying the RA, unless the party qualifies for and WRD grants a RA Exemption related to groundwater remediation*



# Replenishment Assessment Exemptions in the CWCB

## Definitions, Background Information (continued)

- Party must apply with WRD for RA Exemption
- CA Water Code: WRD may grant exemption to (waive) RA if extracted groundwater cannot be economically put to beneficial use, OR usable water in the same quantity will be returned to the subsurface

### CALIFORNIA WATER CODE SECTION 60318

§ 60318 Groundwater contamination; programs to remedy; exemption from replenishment assessment; resolution by board; rescission or modification.

- (a) If the board determines, by resolution, that there is a problem of groundwater contamination that a proposed program will remedy or ameliorate, an operator may make extractions of groundwater to remedy or ameliorate that problem exempt from any replenishment assessment if the water is not applied to beneficial surface use, its extractions are made in compliance with all the terms and conditions of the board resolution, and the board has determined in the resolution either of the following:
- (1) The groundwater to be extracted is unusable and cannot be economically blended for use with other water.
  - (2) The proposed program involves extraction of usable water in the same quantity as will be returned to the underground without degradation of quality.
- (b) The resolution may provide those terms and conditions the board deems appropriate, including, but not limited to, restrictions on the quantity of extractions to be so exempted, limitations on time, periodic reviews, requirement of submission of test results from a laboratory holding a valid certification or accreditation as required by Section 13176, and any other relevant terms or conditions. Upon written notice to the operator involved, the board may rescind or modify its resolution. The rescission or modification of the resolution shall apply to groundwater extractions occurring more than 10 days after the rescission or modification. Notice of rescission or modification shall be either mailed first-class mail, postage prepaid, at least two weeks prior to the meeting of the board at which the rescission or modification will be made to the address of record of the operator or personally delivered two weeks prior to the meeting. All board determinations shall be final. (Added by Stats. 1985, c. 537, § 1. Amended by Stats. 1000, c. 727 (A.B.2886), § 7.)

## Summary, Example Case

### Summary

- *Groundwater cannot be extracted from CWCB without having water rights, or if waiver is granted related to groundwater remediation (Nonconsumptive Water Use Permit)*
- *Any groundwater extractions related to remediation in CWCB should be reported to Watermaster*
- *Central Basin NWU Permits = WRD; West Coast Basin NWU Permits = Watermaster*
- *Groundwater cannot be extracted from WRD's service area without paying the RA, unless the party qualifies for and WRD grants a RA Exemption related to groundwater remediation*



## Summary, Example Case

### Example Case – Former Boeing C1 Facility, Long Beach

- Boeing/RWQCB informed Watermaster, then WRD of proposed pump-and-treat system, ~97 AF/year
- WRD assisted Boeing in partnering with City of Long Beach to borrow 97 AF/year of Long Beach's water rights "in name only"
- Boeing submitted Application for RA Exemption
- Boeing completed research showing that the extracted groundwater could not be economically put to beneficial use
- WRD staff presented Boeing's application and supporting information to Committee and Board; Board issued Resolutions for RA Exemption and Nonconsumptive Water Use Permit for 5 years

